REMARKS

Reconsideration is requested.

Claims 42-78 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-41 of U.S. Patent No. 6,118,789, the parent of the present application identified in Applicant's Preliminary Amendment. Enclosed herewith is a Terminal Disclaimer which obviates the double patenting rejection.

Claim 68 has been amended merely to clarify which predetermined number was being referenced, to avoid confusion with the predetermined number of bits. Claim 75 has been amended merely to correct a typographical error. No amendment made was related to the statutory requirements of patentability unless expressly stated herein. Further, no amendment made was for the purpose of narrowing the scope of claim 68 or claim 75.

Claims 42-78 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,583,850 to Snodgrass et al.

Claim 42 recites, in part, starting the tree search at a selectable level of the search tree. The Snodgrass et al. reference fails to teach or suggest starting a tree search at a selectable level of the search tree, in combination with the other elements of claim 42. Therefore, claim 42 is allowable. As claims 43-47 depend on claim 42, they too are allowable.

Claim 48 recites a method of addressing messages from an interrogator to a selected one or more of a number of communications devices, the method comprising establishing for respective devices unique identification numbers

B

respectively having a first predetermined number of bits; establishing a second predetermined number of bits to be used for random values; causing the devices to select random values, wherein respective devices choose random values independently of random values selected by the other devices; determining the maximum number of devices potentially capable of responding to the interrogator; transmitting a command from the interrogator requesting devices having random values within a specified group of random values to respond, by using a subset of the second predetermined number of bits, the specified group being chosen in response to the determined maximum number; receiving the command at multiple devices, devices receiving the command respectively determining if the random value chosen by the device falls within the specified group and, if so, sending a reply to the interrogator; and determining using the interrogator if a collision occurred between devices that sent a reply and, if so, creating a new, smaller, specified group.

The Snodgrass et al. reference fails to teach or suggest determining the maximum number of devices potentially capable of responding to the interrogator; transmitting a command from the interrogator requesting devices having random values within a specified group of random values to respond, by using a subset of the second predetermined number of bits, the specified group being chosen in response to the determined maximum number, in combination with the other limitations of claim 48. Therefore, claim 48 is allowable. As claims 49-52 depend on claim 48, they too are allowable.

Instead, the Snodgrass et al. reference teaches always starting a tree search at the top node. See, for example, Fig. 12, and text starting at Col. 16, line 22; and, more particularly, text starting at Col. 17, line 53 of the Snodgrass et al. reference.

By knowing the maximum number of devices that are in the field (that can communicate with the interrogator), and starting an arbitration search scheme at a point in response to that number, the number of collisions are reduced, thus resulting in reduced arbitration time, as discussed in applicant's specification (see, e.g., text starting at page 21, line 3).

This issue is not addressed by the Snodgrass et al. reference and no solution is taught.

Claim 53 recites a method of addressing messages from an interrogator to a selected one or more of a number of communications devices, the method comprising causing the devices to select random values for use as arbitration numbers, wherein respective devices choose random values independently of random values selected by the other devices, the devices being addressable by specifying arbitration numbers with any one of multiple possible degrees of precision; transmitting a command from the interrogator requesting devices having random values within a specified group of a plurality of possible groups of random values to respond, the specified group being less than the entire set of random values, the plurality of possible groups being organized in a binary tree defined by a plurality of nodes at respective levels, wherein the size of groups of random values decrease in size by half with each node descended, wherein

the specified group is below a node on the tree selected based on the maximum number of devices capable of communicating with the interrogator; receiving the command at multiple devices, devices receiving the command respectively determining if the random value chosen by the device falls within the specified group and, if so, sending a reply to the interrogator; and, if not, not sending a reply; and determining using the interrogator if a collision occurred between devices that sent a reply and, if so, creating a new, smaller, specified group by descending in the tree.

The Snodgrass et al. reference fails to teach or suggest transmitting a command from the interrogator requesting devices having random values within a specified group of a plurality of possible groups of random values to respond, the specified group being less than the entire set of random values, the plurality of possible groups being organized in a binary tree defined by a plurality of nodes at respective levels, wherein the size of groups of random values decrease in size by half with each node descended, wherein the specified group is below a node on the tree selected based on the maximum number of devices capable of communicating with the interrogator, in combination with the other limitations of claim 53. Instead, the Snodgrass et al. reference teaches always starting at the top of the search tree. Therefore, claim 53 is allowable. As claims 54-56 depend on claim 53, they too are allowable.

Claim 57 recites a method of addressing messages from an interrogator to a selected one or more of a number of RFID devices, the method comprising establishing for respective devices a predetermined number of bits to be used

B

for random values, the predetermined number being a multiple of sixteen; causing the devices to select random values, wherein respective devices choose random values independently of random values selected by the other devices; transmitting a command from the interrogator requesting devices having random values within a specified group of a plurality of possible groups of random values to respond, the specified group being equal to or less than the entire set of random values, the plurality of possible groups being organized in a binary tree defined by a plurality of nodes at respective levels, wherein the maximum size of groups of random values decrease in size by half with each node descended, wherein the specified group is below a node on a level of the tree selected based on the maximum number of devices known to be capable of communicating with the interrogator; receiving the command at multiple devices, devices receiving the command respectively determining if the random value chosen by the device falls within the specified group and, only if so, sending a reply to the interrogator, wherein sending a reply to the interrogator comprises transmitting both the random value of the device sending the reply and the unique identification number of the device sending the reply; using the interrogator to determine if a collision occurred between devices that sent a reply and, if so, creating a new, smaller, specified group using a level of the tree different from the level used in the interrogator transmitting, the interrogator transmitting a command requesting devices having random values within the new specified group of random values to respond; and if a reply without collision is received from a device, the

interrogator subsequently sending a command individually addressed to that device.

The Snodgrass et al. reference fails to teach or suggest transmitting a command from the interrogator requesting devices having random values within a specified group of a plurality of possible groups of random values to respond, the specified group being equal to or less than the entire set of random values, the plurality of possible groups being organized in a binary tree defined by a plurality of nodes at respective levels, wherein the maximum size of groups of random values decrease in size by half with each node descended, wherein the specified group is below a node on a level of the tree selected based on the maximum number of devices known to be capable of communicating with the interrogator in combination with the other limitations of claim 57. Instead, the Snodgrass et al. reference teaches always starting at the top of the search tree. Therefore, claim 57 is allowable. As claims 58-64 depend on claim 57, they too are allowable.

Claim 65 recites, in part, that the interrogator is configured to start the tree search at a selectable level of the search tree.

The Snodgrass et al. reference fails to teach or suggest an interrogator configured to start a tree search at a selectable level of a search tree, in combination with the other limitations of claim 65. Therefore, claim 65 is allowable. As claims 66-67 depend on claim 65, they too are allowable.

Claim 68 recites a system comprising an interrogator; a number of communications devices capable of wireless communications with the interrogator;

B

means for establishing a predetermined number of bits to be used as random numbers, and for causing respective devices to select random numbers respectively having the predetermined number of bits; means for inputting a predetermined number indicative of the maximum number of devices possibly capable of communicating with the receiver; means for causing the interrogator to transmit a command requesting devices having random values within a specified group of random values to respond, the specified group being chosen in response to the predetermined number; means for causing devices receiving the command to determine if their chosen random values fall within the specified group and, if so, send a reply to the interrogator; and means for causing the interrogator to determine if a collision occurred between devices that sent a reply and, if so, create a new, smaller, specified group.

The Snodgrass et al. reference fails to teach or suggest means for inputting a predetermined number indicative of the maximum number of devices possibly capable of communicating with the receiver; means for causing the interrogator to transmit a command requesting devices having random values within a specified group of random values to respond, the specified group being chosen in response to the inputted predetermined number, in combination with the other limitations of claim 68. Therefore, claim 68 is allowable. As claims 69-70 depend on claim 68, they too are allowable.

Claim 71 recites system comprising an interrogator configured to communicate to a selected one or more of a number of communications devices; a plurality of communications devices; the devices being configured to select

random values, wherein respective devices choose random values independently of random values selected by the other devices, different sized groups of devices being addressable by specifying random values with differing levels of precision; the interrogator being configured to transmit a command requesting devices having random values within a specified group of a plurality of possible groups of random values to respond, the specified group being less than the entire set of random values, the plurality of possible groups being organized in a binary tree defined by a plurality of nodes at respective levels, wherein the size of groups of random values decrease in size by half with each node descended, wherein the specified group is below a node on the tree selected based on a predetermined maximum number of devices capable of communicating with the interrogator; devices receiving the command being configured to respectively determine if their chosen random values fall within the specified group and, if so, send a reply to the interrogator; and, if not, not send a reply; and the interrogator being configured to determine if a collision occurred between devices that sent a reply and, if so, create a new, smaller, specified group by descending in the tree.

The Snodgrass et al. reference fails to teach or suggest the specified group being below a node on the tree selected based on a predetermined maximum number of devices capable of communicating with the interrogator, in combination with the other limitations of claim 71. Therefore, claim 71 is allowable. As claims 72-74 depend on claim 71, they too are allowable.

Claim 75 recites a system comprising an interrogator configured to communicate to a selected one or more of a number of RFID devices; a plurality of RFID devices, respective devices being configured to store unique identification numbers respectively having a first predetermined number of bits, respective devices being further configured to store a second predetermined number of bits to be used for random values, respective devices being configured to select random values independently of random values selected by the other devices; the interrogator being configured to transmit an identify command requesting a response from devices having random values within a specified group of a plurality of possible groups or random values, the specified group being less than or equal to the entire set of random values, the plurality of possible groups being organized in a binary tree defined by a plurality of nodes at respective levels, wherein the maximum size of groups of random values decrease in size by half with each node descended, wherein the specified group is below a node on a level of the tree selected based on the maximum number of devices known to be capable of communicating with the interrogator; devices receiving the command respectively being configured to determine if their chosen random values fall within the specified group and, only if so, send a reply to the interrogator, wherein sending a reply to the interrogator comprises transmitting both the random value of the device sending the reply and the unique identification number of the device sending the reply; the interrogator being configured to determine if a collision occurred between devices that sent a reply and, if so, create a new, smaller, specified group using a level of the tree

B

different from the level used in previously transmitting an identify command, the interrogator transmitting an identify command requesting devices having random values within the new specified group of random values to respond; and the interrogator being configured to send a command individually addressed to a device after communicating with a device without a collision.

The Snodgrass et al. reference fails to teach or suggest the interrogator being configured to transmit an identify command requesting a response from devices having random values within a specified group of a plurality of possible groups or random values, the specified group being less than or equal to the entire set of random values, the plurality of possible groups being organized in a binary tree defined by a plurality of nodes at respective levels, wherein the maximum size of groups of random values decrease in size by half with each node descended, wherein the specified group is below a node on a level of the tree selected based on the maximum number of devices known to be capable of communicating with the interrogator.

As claims 76-78 depend on claim 75, they too are allowable.

In view of the foregoing, allowance of claims 42-78 is requested. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

Dated: April 11, 2001 By: _____

Deepak Malhotra
Reg. No. 33,560

B

Application Serial No. 09/617,390
Filing Date ..... July 17, 2000
Inventor ..... Clifton W. Wood, Jr.
Assignee ..... Micron Technology, Inc.
Group Art Unit 2661
Examiner ..... David R. Vincent
Attorney's Docket No. MI40-301
Title: Method of Addressing Messages and Communications System

VERSION WITH MARKINGS TO SHOW CHANGES MADE ACCOMPANYING RESPONSE TO APRIL 2, 2001 OFFICE ACTION

In the Specification

The replacement specification paragraphs incorporate the following amendments. Underlines indicate insertions and ~~strikeouts~~ indicate deletions.

The paragraph beginning at line 3 on page 25 has been amended as follows:

Aloha methods are described in a commonly assigned patent application (attorney docket MI40-089) naming Clifton W. Wood, Jr. as an inventor, U.S. Patent Application Serial No. 09/026,248, filed February 19, 1998, titled "Method of Addressing Messages and Communications System," filed concurrently herewith, and incorporated herein by reference.

The paragraph beginning at line 14 on page 26 has been amended as follows:

Level skipping methods are described in a commonly assigned patent application (attorney docket MI40-117) naming Clifton W. Wood, Jr. and Don Hush as inventors, U.S. Patent Application Serial No. 09/026,045, filed February 19, 1998, titled "Method of Addressing Messages, Method of Establishing

B

Wireless Communications, and Communications Systems," filed concurrently herewith, and incorporated herein by reference.

In the Claims

The claims have been amended as follows. Underlines indicate insertions and ~~strikeouts~~ indicate deletions.

68. (Amended) A system comprising:

an interrogator;

a number of communications devices capable of wireless communications with the interrogator;

means for establishing a predetermined number of bits to be used as random numbers, and for causing respective devices to select random numbers respectively having the predetermined number of bits;

means for inputting a predetermined number indicative of the maximum number of devices possibly capable of communicating with the receiver;

means for causing the interrogator to transmit a command requesting devices having random values within a specified group of random values to respond, the specified group being chosen in response to the inputted predetermined number;

means for causing devices receiving the command to determine if their chosen random values fall within the specified group and, if so, send a reply to the interrogator; and

means for causing the interrogator to determine if a collision occurred between devices that sent a reply and, if so, create a new, smaller, specified group.

75. (Amended) A system comprising:

an interrogator configured to communicate to a selected one or more of a number of RFID devices;

a plurality of RFID devices, respective devices being configured to store unique identification numbers respectively having a first predetermined number of bits, respective devices being further configured to store a second predetermined number of bits to be used for random values, respective devices being configured to select random values independently of random values selected by the other devices;

the interrogator being configured to transmit an identify command requesting a response from devices having random values within a specified group of a plurality of possible groups or random values, the specified group being less than or equal to the entire set of random values, the plurality of possible groups being organized in a binary tree defined by a plurality of nodes at respective levels, wherein the maximum size of groups of random values decrease in size by half with each node descended, wherein the specified group is below a node on a level of the tree selected based on ~~a predetermined number based on~~ the maximum number of devices known to be capable of communicating with the interrogator;

devices receiving the command respectively being configured to determine if their chosen random values fall within the specified group and, only if so, send a reply to the interrogator, wherein sending a reply to the interrogator comprises

transmitting both the random value of the device sending the reply and the unique identification number of the device sending the reply;

the interrogator being configured to determine if a collision occurred between devices that sent a reply and, if so, create a new, smaller, specified group using a level of the tree different from the level used in previously transmitting an identify command, the interrogator transmitting an identify command requesting devices having random values within the new specified group of random values to respond; and

the interrogator being configured to send a command individually addressed to a device after communicating with a device without a collision.

-END OF DOCUMENT-